

These quantities have been computed from the corrected elements, and the values of A, B, and C modified by the subtraction of a constant ( $9' 46'' \cdot 5$ ) from each, so as to be applicable to the perturbed true anomalies when the perturbations are taken from Brünnow's Tables.

*H.M. Nautical Almanac Office :*  
1904 March 31.

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*Observations of the Minor Planet (324) Bamberga at Windsor,  
New South Wales. By John Tebbutt.*

The observations were made with the 8-inch equatorial and its filar micrometer in a bright field. The following notes were made with reference to the planet's magnitude :

August 12 : Magnitude about 8.0. August 17 : Apparently brighter than on previous occasions. August 20 : Certainly did not exceed  $8\frac{1}{2}$  magnitude. August 29 : Planet and comparison star exactly equal. September 1 : Much brighter than comparison star and of  $8\frac{1}{2}$  magnitude. September 3 : Planet slightly brighter than comparison star. September 4 : Considerably less than star. September 5 : Very much inferior to star. September 7 : Planet becoming fainter. September 14 : Slightly less than star. September 21 : Equal to  $8\frac{1}{2}$  magnitude.

April 1904.

Minor Planet (324) Bamberga.

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(324) Bamberga.

Date.	Windsor Mean Time		Planet—Star. Δ R.A.		Planet's App. R.A.	Log. pΔ.	Planet's App. N.P.D.		Log. pΔ.	Reduction to App. Place. R.A.		Comp. Star.
1903.	h	m	s	m	s	h	m	s	+	s	"	I
Aug. 12	10	51	56	+1 48.61	— 5 33.5	22 23 24.48	9 43.55	101 37 19.2	0.5448	+3.34	—23.7	1
13	9 45 47			+0 58.36	—11 0.4	22 22 34.25	9.5725	101 31 52.3	0.5767	+3.36	—23.7	1
15	10 26 1			—4 51.32	...	22 20 42.88	9.4666	...	...	+3.37	...	2
15	10 26 1			—5 53.16	— 3 28.3	22 20 42.93	9.4666	101 20 17.7	0.5542	+3.36	—23.8	3
16	9 33 2			—5 45.97	+ 4 42.4	22 19 48.24	9.5690	101 14 47.0	0.5789	+3.38	—23.9	2
16	9 33 2			—6 47.82	...	22 19 48.29	9.5690	...	...	+3.38	...	3
17	9 21 59			—6 43.36	— 0 59.8	22 18 50.86	9.5791	101 9 4.8	0.5835	+3.39	—23.9	2
17	9 21 59			—7 45.29	...	22 18 50.83	9.5791	...	...	+3.39	...	3
20	9 32 58			—3 12.77	+10 48.0	22 15 50.48	9.5318	100 51 40.5	0.5736	+3.44	—24.0	4
22	9 15 26			—5 16.08	— 0 47.9	22 13 47.18	9.5464	100 40 4.5	0.5797	+3.45	—24.1	4
23	9 16 41			—6 19.02	— 6 40.5	22 12 44.25	9.5342	100 34 11.9	0.5781	+3.46	—24.1	4
29	9 13 24			+1 4.54	+ 6 53.5	22 6 20.84	9.4729	99 58 18.4	0.5744	+3.51	—24.2	5
Sept. 1	8 55 46			+0.59.78	+ 1 9.9	22 3 12.23	9.4794	99 40 5.2	0.5793	+3.52	—24.2	6
2	8 52 43			—0 2.40	— 5 1.4	22 2 10.06	9.4744	99 33 53.8	0.5800	+3.53	—24.3	6
3	8 26 24			—1 2.78	—11 8.7	22 1 9.68	9.5235	99 27 46.5	0.5895	+3.53	—24.3	6
4	8 33 19			+0 41.84	+10 43.5	22 0 8.61	9.4972	99 21 29.0	0.5863	+3.52	—24.3	7

Date.	Windsor Mean Time.	Planet—Star.		Planet's App. R.A.		Log. $p\Delta$ .	Planet's App. N.P.D.		Log. $p\Delta$ .	Reduction to App. Place. R.A.	Comp. Star.
	$h$ $m$ $s$	$\Delta$ R.A. $m$ $s$	$\Delta$ N.P.D. $'$ $''$	$h$ $m$ $s$	$h$ $m$ $s$		$^{\circ}$ $'$ $''$	$^{\circ}$ $'$ $''$		$s$	
1903. Sept. 5	8 30 35	-0 17.92	+ 4 25.8	15	21 59 8.85	9.4919	99 15 11.3	0.5868	+	+3.52	7
7	8 23 35	-2 14.42	- 8 16.0	10	21 57 12.35	9.4851	99 2 29.5	0.5885	+	+3.52	7
7	9 10 54	-2 16.36	...	5	21 57 10.41	9.3400	...	...	...	+3.52	7
7	9 10 54	+4 36.14	+ 1 5.0	5	21 57 10.34	9.3400	99 2 14.8	0.5740	+	+3.52	8
8	7 44 48	-3 9.42	...	7	21 56 17.35	9.5560	...	...	...	+3.52	7
8	7 44 48	+3 43.07	- 4 55.9	7	21 56 17.27	9.5560	98 56 13.9	0.6022	+	+3.52	8
9	8 6 35	-4 5.66	...	3	21 55 21.11	9.5019	...	...	...	+3.52	7
9	8 6 35	+2 46.73	-11 30.0	3	21 55 20.93	9.5019	98 49 59.8	0.5934	+	+3.52	8
12	8 58 31	+6 43.60	+ 8 36.4	6	21 52 41.70	9.2911	98 29 54.6	0.5790	+	+3.50	9
13	8 3 21	+5 56.32	+ 2 16.5	10	21 51 54.42	9.4624	98 23 34.6	0.5936	+	+3.50	9
14	7 59 33	+5 8.88	- 4 19.9	10	21 51 6.97	9.4600	98 16 58.2	0.5950	+	+3.49	9
20	8 3 33	-4 9.15	+10 28.7	8	21 47 1.26	9.3612	97 36 29.1	0.5957	+	+3.46	10
21	7 58 38	-4 42.80	+ 3 37.4	7	21 46 27.60	9.3626	97 29 37.8	0.5972	+	+3.45	10
23	7 48 59	-5 42.78	-10 11.3	7	21 45 27.61	9.3652	97 15 49.2	0.6005	+	+3.44	10

Adopted Mean Places of the Comparison Star for 1903.0.

Star.	R.A.			N.P.D.			Authorities.
	h	m	s	°	'	"	
1	22	21	32.53	101	43	16.4	Argent, G. Cat. 1875, 30622; Radcliffe, 1890, 6026.
2	22	25	30.83	101	10	28.5	Greenw. Cat. 1880, 3769; Stone, 11769; Radcliffe, 1890, 6040.
3	22	26	32.73	101	24	9.8	Greenw. Cat. 1880, 3778; Stone, 11780; Radcliffe, 1890, 6043.
4	22	18	59.81	100	41	16.5	Argent, G. Cat. 1875, 30577; Radcliffe, 1890, 6012.
5	22	5	12.79	99	51	49.1	Lalande, 43217 and 8.
6	22	2	8.93	99	39	19.5	Yarnall, 9955.
7	21	59	23.25	99	11	9.8	Radcliffe, 1890, 5935.
8	21	52	30.68	99	1	34.0	Radcliffe, 1890, 5911.
9	21	45	54.60	98	21	42.4	Radcliffe, 1890, 5889.
10	21	51	6.95	97	26	24.9	Radcliffe, 1890, 5906.

Private Observatory, The Peninsula, Windsor, N.S. Wales:  
1904 February 11.